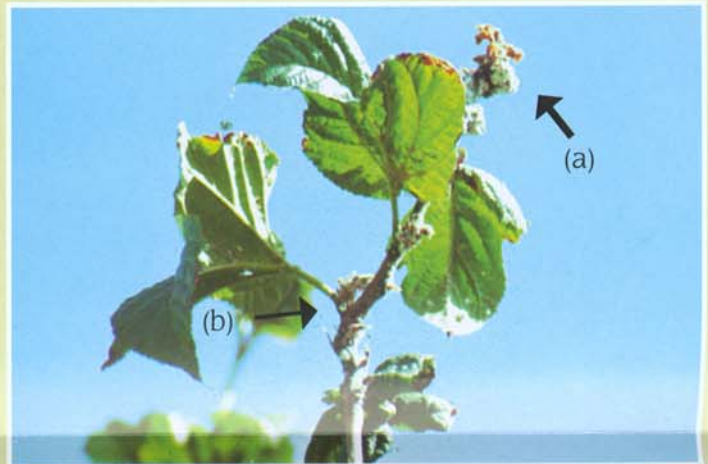


Have You Found the Pink Hibiscus Mealybug?

An infested mulberry tree terminal (right) with damage including: a destroyed growing tip (a), crooked stem (b) and leaf loss.

Damaged terminals are readily apparent from a distance.

Likely host plants: mulberry, hibiscus, carob tree, silk oak, orchid tree, natal plum, fig, grape, coral tree and citrus.



A recently infested growing tip (right) containing numerous mid to late stage female mealybugs among abundant white wax. Individual mealybugs are visible in lower left corner.



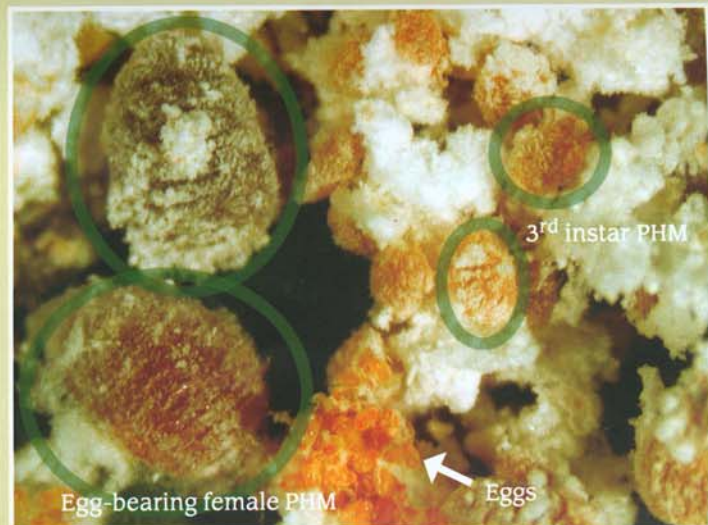
Lateral filaments of wax

Not PHM

No lateral filaments of wax

PHM

Mealybug life stages (right). Eggs and early instars are commonly pink in color. Compared to many other mealybug species (above), PHM has no waxy filaments extending from its perimeter. Wax is present as tufts.



*If you believe your plants are infested, please call your **County Agricultural Commissioner's Office** (see Government-County section in local phonebook)*



Eggs



Young adult female



Male

The PHM reproduces by laying eggs (left) which soon hatch into crawlers (i.e., first instar nymphs). There are three nymphal stages before a female PHM becomes an adult, appearing much the same as an immature stage (i.e., wingless). Male mealybugs have wings and are considerably smaller than females. During the warm summer, generations take approximately 35 days. There are multiple generations in a year. The PHM's native range extends from southeast Asia to Australia. It has become a significant pest on numerous plant species in many locations worldwide. It was detected in southern California in August of 1999. It has been found on several landscape plant species including, mulberry, hibiscus, orchid tree, silk oak tree, natal plum etc. Its distribution has changed remarkably little since it was first detected in Imperial Valley.

The pink hibiscus mealybug [*Maconellicoccus hirsutus* (Green)]



Anagyrus kamali, laying an egg within a second instar PHM nymph (upper left). These wasps are very small (1.5 to 2 mm in length) and will not sting humans.

Effective biological control agents can be used against the PHM in new areas of infestation. A non-stinging species of wasp, *Anagyrus kamali*, has been used very successfully (left).

Soon after the PHM was detected in California, a biological control program was implemented. Several parasitoid species were released against this pest. The parasitoids soon established and within months, high levels of parasitism were observed. PHM densities declined by more than 90 percent. During warm temperatures, the wasps develop in less than 20 days.

Cooperating agencies: California Dept. of Food & Agriculture, United States Dept. of Agriculture, University of California and Cooperative Extension, & County Agricultural Commissioners



California Department of Food and Agriculture
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Pink Hibiscus Mealybug

A SERIOUS PEST OF NUMEROUS PLANT SPECIES, ESPECIALLY ORNAMENTALS